

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) A semiconductor light emitting device, comprising:

a substrate;

a first conductive type first cladding layer on said substrate;

an active layer on said first cladding layer; and

a second conductive type second cladding layer on said active layer, a part thereof having a ridge-shaped portion as a current narrowing structure,

wherein,

said first ridge-shaped layer and said second ridge-shaped layer are a layer with a relatively high aluminum composition ratio and a layer with a relatively low aluminum composition ratio, respectively,

said ridge-shaped portion of said second cladding layer includes a first ridge-shaped layer on the side closest to said active layer and having a ~~relatively high~~ higher bandgap ~~than said first cladding layer~~ and a second ridge-shaped layer on the side distant from the active layer and having a relatively low bandgap,

an aluminum composition ratio X1 of said first ridge-shaped layer is $0.60 < X1 < 0.70$, and

an aluminum composition ratio X2 of said second ridge-shaped layer is $X2 < X1$.

4. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein:

an aluminum composition ratio X1 of said first ridge-shaped layer is 0.70, and

an aluminum composition ratio X2 of said second ridge-shaped layer is 0.65.

5. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein a film thickness of said first ridge shaped layer is 50 to 400 nm.

6. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein a sum of a film thickness of a portion excepting said ridge-shaped portion of said second cladding layer and a film thickness of said first ridge-shaped layer is 750 nm or smaller.

7. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein an etching stop layer is on a boundary face of a portion excepting the ridge-shaped portion of said second cladding layer and said first ridge-shaped layer.

8. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein said first cladding layer, said active layer and said second cladding layer comprises an AlGaInP-based material.

9. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein said first cladding layer, said active layer and said second cladding layer comprises an AlGaIn-based material.

10. (Original) A semiconductor light emitting device as set forth in claim 3, wherein said first ridge-shaped layer comprises a layer having an equal refractive index to that of a portion excepting said ridge-shaped portion of said second cladding layer.

11. (Previously Presented) A semiconductor light emitting device as set forth in claim 3, wherein said first ridge-shaped layer comprises a layer having a lower refractive index than that of a portion excepting said ridge-shaped portion of said second cladding layer.

12. (Previously Presented) A semiconductor light emitting device as set forth in claim 11, wherein an aluminum composition ratio of said portion excepting said ridge-shaped portion of said second cladding layer is 0.68, and an aluminum composition ratio of said first ridge-shaped layer is 0.75 to 0.80.

13. (Cancelled)

14. (Cancelled)

15. (Currently Amended) A method of producing a semiconductor light emitting device, including:

a step of forming at least a first conductive type first cladding layer, an active layer and a second-conductive type second cladding layer by stacking on a substrate by an epitaxial growth method; and

a step of processing a ridge-shaped portion as a current narrowing structure at a part of said second cladding layer,

wherein,

in the step of forming said second cladding layer, a ridge-shaped portion is formed to include a first ridge-shaped layer on the side close to said active layer and having a ~~relatively high~~ high ~~higher bandgap than said first cladding layer~~ and a second ridge-shaped layer on the side distant from the active layer and having a relatively low bandgap,

in the step of forming said second cladding layer, a layer having a relatively high aluminum composition ratio and a layer having a relatively low aluminum composition ratio are formed as said first ridge-shaped layer and said second ridgeshaped layer, respectively, and

in the step of forming said second cladding layer, a layer having an aluminum composition ratio X_1 satisfying $0.60 < X_1 < 0.70$ is formed as said first ridge-shaped layer and a layer having an aluminum composition ratio X_2 of $X_2 < X_1$ as said second ridge-shaped layer.

16. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, a layer having an aluminum composition ratio X_1 of 0.70 is formed as said first ridge-shaped layer and a layer having an aluminum composition ratio X_2 of 0.65 is formed as said second ridge-shaped layer.

17. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, said first ridge-shaped layer is formed to have a film thickness of 50 to 400 nm.

18. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, a sum of a film thickness of a portion excepting said ridge-shaped portion of said second cladding layer and a film thickness of said first ridge-shaped layer is made to be 750 nm or smaller.

19. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, an etching stop layer is formed on a boundary face of a portion excepting said ridge-shaped portion of said second cladding layer and said first ridge-shaped layer.

20. (Previously Presented) The method of producing a semiconductor light-emitting device as set forth in claim 19, wherein in the step of processing said ridge-shaped portion as the current narrowing structure at the part of said second cladding layer, the part of said second cladding layer is processed to be said ridge-shaped portion by etching which stops at said etching stop layer.

21. (Previously Presented) The method of producing a semiconductor light-emitting device as set forth in claim 15, wherein said first cladding layer, said active layer and said second cladding layer are formed by of AlGaInP-based material.

22. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein said first cladding layer, said active layer and said second cladding layer are formed by of AlGaIn-based material.

23. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, a layer having a same refractive index as that of a portion excepting said ridge-shaped portion of said second cladding layer is formed as said first ridge shaped layer.

24. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 15, wherein in the step of forming said second cladding layer, a layer having a lower refractive index than that of a portion excepting said ridge-shaped portion of said second cladding layer is formed as said first ridge shaped layer.

25. (Previously Presented) The method of producing a semiconductor light emitting device as set forth in claim 24, wherein in the step of forming said second cladding layer, a layer having an aluminum composition ratio of 0.68 is formed as a portion excepting said ridge-shaped portion of said second cladding layer and a layer having an aluminum composition ratio of 0.75 to 0.80 is formed as said first ridge-shaped layer.